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## *FASEB Assails Institute of Medicine Report*

### Strife Erupts Over Shares of Biomedical Funding

Rarely have the internal economic strains of science been so exposed to public view as in a raucous dispute that has broken out over federal financing for basic biomedical research. In simplified form, the conflict is between the frontline practitioners of basic biomedical research and the managers of the institutions in which they work. The fundamental issue is an old one, shares and priorities, but it's now inflamed by hard times, fears of worse to come, and a resounding mutuality of distrust.

On one side is an elite 18-member Committee on Policies for Allocating Health Sciences Research Funds, a creature of the Institute of Medicine (IOM), the politically influential health-policy wing of the prestigious National Academy of Sciences. [See P. 3 for membership.] The Committee can be regarded as a surrogate for the front offices of major-league academic science. Drawn mainly from the senior echelons of

draft forms, it was officially published November 9. The report covers many facets of biomedical finance and priorities. But one point alone caused FASEB to leave its quarters in suburban Maryland and meet with the press in downtown (Continued on Page 2)

### In Brief

A largescale consolidation of many of the military services' laboratories into several major centers is brewing at the Pentagon, just a step ahead of a new Congressional mandate for DOD to establish a Commission on Laboratory Consolidation and Conversion. The lab Commission proposal, modeled after the partially successful Commission on Base Closure, is getting the runaround from Defense Secretary Cheney, Congressional sources tell SGR. They say he wants to do it his way. The Defense Authorization Act (S. 2884) directs the Secretary to receive recommendations and "initiate consolidation, closure, and conversion actions no later than September 30, 1991."

Walter Massey, the nominee for Director of NSF, is not likely to take office earlier than March, according to colleagues at the University of Chicago, where he's Vice President for Research and the Argonne National Laboratory. Since July, Massey has been on sabbatical, based in Paris, for a study of European technology-transfer techniques. Friends say he plans to stick to his original schedule of returning to Chicago at the end of January. Senate approval of his nomination is considered a certainty, but nominees rarely move to Washington until it is official.

NSF has been headed on an acting basis by Deputy Director Frederick M. Bernthal since August, when Erich Bloch's term expired. The "Acting" title carries lesser weight in Washington's eternal struggle for budget shares. Massey's timetable also limits his participation in the crucial House Appropriations hearings, most of which are packed into the early days of the session.

NIH is in a similar fix, lacking a full-fledged Director since August 1989, when James B. Wyngaarden resigned and was replaced on an acting basis by Deputy Director William F. Raub, who may be pushing the federal record for fill-in duty. Bernadine P. Healy, Chairman of the Research Institute of the Cleveland Clinic, is the choice for next Director, according to an announcement in October by the Department of Health and Human Services. But a nomination has not left the White House and there's been no further word.

### *New Candor on Nazi Rocket Legacy At Smithsonian's Air and Space—P5*

research and administration, the Committee is not indifferent to the current fiscal pains of science. But it takes a broader view that encompasses the plight of the institutional base and the long-term future of science.

On the other side is the organization that regards itself as the Washington representative of the scientist at the bench, the 30,000-member Federation of American Societies for Experimental Biology (FASEB), a consortium of seven life-sciences societies. The fiscal lifelines of FASEB members run to the National Institutes of Health and the Alcohol, Drug Abuse, and Mental Health Administration—agencies that they cherish as the hometown bank for their professional existence.

Last week, in a departure from the customarily decorous conduct of science politics, FASEB put on a press conference to proclaim that the IOM Committee was uninformed about the administrative and financial realities of biomedical research, loaded with academic managers remote from the vulnerabilities of working scientists, and promoting a strategy detrimental to health science and the nation.

The precipitating event for these denouncements is a report produced by the IOM Committee, *Funding Health Sciences Research: A Strategy to Restore Balance*. Circulating around Washington for several months in summary and

## "Imbalance Does Not Exist," Says the Head of FASEB

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Washington: A recommendation in the report for a priority shift in federal biomedical research funding toward research training and facilities, at the expense of support for established scientists.

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*Funding Health Sciences Research: A Strategy to Restore Balance* (\$27.50, plus \$2 postage), by a panel chaired by Floyd E. Bloom, Research Institute of Scripps Clinic; order from: National Academy Press, 2101 Constitution Ave. NW, Washington, DC 20418; tel. 1-800-624-6242; in Washington, DC, 334-3313.

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The shift is needed, says the report, because "allocation policies over the past two decades have forced an overall imbalance in the health sciences research system in which support of research project grants has been heavily favored at the expense of training and facilities." The rationale offered by the report was that established scientists can endure a slight reduction in overall support and hang on by one means or another, but research will languish without sufficient new blood and properly equipped work space.

How much of a shift? The IOM report offers several scenarios based on assumptions ranging from no real growth of federal support for biomedical research over the next decade to 4 percent real growth. At the low end, the priority shift would raise training support from the present 4.2 percent of extramural funds to 6.75 by the year 2000. Construction funds would rise from .25 percent of the extramural total to .50 percent. At higher rates of budget growth, the percentages wouldn't change much, but, of course, all sectors would get richer faster, according to the Committee's recipe.

An outlandish and misleading scheme—that was the conclusion of a panel of specialists appointed by FASEB to review the IOM report. And reporting to the press on the negative findings of that panel was the President of FASEB, Thomas S. Edgington, a Professor in the Department of Immunology of the Research Institute of Scripps Clinic, La Jolla, Calif.

Saturine in manner, Edgington announced to the assemblage that "the perceived imbalance does not exist," and "the basic premise" of the IOM report "is not substantiated." In its concerns over the training of young scientists, he explained, the IOM Committee had failed to take into consideration the large numbers who serve as research assistants on NIH- and ADAMHA-supported projects. Exact figures are lacking, he said, because Washington no longer tallies these trainees, but he estimated that they average about three per grant. Thus, "the level of direct support for research" is the most important factor for preparing the next generation of scientists.

Under the no-growth scenario, Edgington continued, the IOM Committee recommendations for a shift of funds to training would cost researchers \$182 million per year by the

year 2000 and would reduce the number of research grants by almost 1000.

Edgington was asked to explain how a group as distinguished and knowledgeable as the IOM Committee could be so misinformed and misguided. Part of the problem, he responded, was that the IOM Committee consisted mainly of "institutional officials, deans, etc." He added that the membership included "only two working scientists—whom he identified as Chairman Bloom and Ronald Breslow, Professor of Chemistry at Columbia University—though many other members, he conceded, had been active in research and were now research administrators.

The charge from the IOM, he said, also burdened the Committee with a false premise, that an imbalance exists in federal support of the biomedical sciences and that the Committee's task is to recommend ways to correct it. Edgington referred to the preface of the report, where the Committee states that it was "charged to recommend appropriate revisions in these policies in order to restore balance among the essential components of the health-research enterprise (research, training, equipment, and facilities)." He said that he had heard that some members of the IOM Committee were unhappy with the "imbalance" premise, but were not given an opportunity to contest it. He also suggested that some members dissented from the final report, but did not present a minority report.

Finally, Edgington pitched into some of the basic psychopolitics of the controversy by describing the IOM recommendations as "budgetary gerrymandering"—a neat term for living with austerity rather than agitating for more money. Referring to the 1.7 percent of national health-care spending devoted to basic biomedical research, he asked, "Is that a responsible level of commitment?" Answering his own question, he declared, "It's a low commitment," adding that the policy question that should be addressed is, "What is a responsible level of funding?"

Political strategy thus emerges as a big difference between the IOM Committee and FASEB, with the former accepting austerity as a fact of the Gramm-Rudman era,

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# IOM Asserts Scientists Misunderstand Grant System

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while the latter wants to carry on the traditional game of luring more money from Congress—and damn the budget crises. Essential to this approach, however, is the continuous projection of an aura of neglect around the scientific community. According to this strategy, there once was a Golden Era of Biomedical Research, but it is long gone and now hard times prevail.

A further offense of the IOM Committee report is that it explicitly states that the fiscal plight of biomedical research has been exaggerated. "Funding patterns through 1989," the report states, "revealed that more investigators and projects are receiving federal support than ever before, with the highest total allocations since the system began." Pressing the theme of imbalance, the report says that biomedical research suffers from too much going into project grants and not enough into training and facilities.

In a notably condescending fashion, the report also lectures the scientific community about its grasp of the mechanics of the research-funding system on which it depends. While applicants lament the award rates at NIH and ADAMHA as cruelly low, the Committee explains that the recently adopted percentile system for grading applications "has led to a false impression of 'declining' support" by the two agencies. Dropping the conventional blandness of the science-policy genre, the report asserts that "the percentile cut-off generally has been misconstrued by the scientific community as the award rate." Later on, it refers to scientists' "misperception" of the granting system.

In these and other passages, there's an implication that the scientific community is well stocked with dolts. This commonly held view is often expressed in the privacy of faculty clubs; it has heretofore not been stated in a publication bearing the imprint of the National Academy of Sciences.

Appended to the Committee report is an introduction that suggests the possibility of misgivings on the part of Frank Press, President of the Academy, and Samuel O. Thier, President of the IOM. The Committee and the report, they recalled, were spawned last June at an IOM "Forum on Supporting Biomedical Research: Near-Term Problems and Options for Action" [SGR, August 1: "NIH Crowd Seeks New Ways Out of Money Crunch"]. Press and Thier noted into their introduction that "the consensus of the forum was that we are now facing a crisis in funding of research projects. 'Thus it must appear incongruous,' they continued, "that this report focuses on long-range recommendations calling for more money for training, career development, facilities, and greater flexibility in the calculation of indirect costs. We recognize that in the current environment, the committee might also have addressed and highlighted the immediate funding pressures."

However, the two Presidents noted, that issue was reas-

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## Committees in Collision: The Lineup of Members

*Members of the Institute of Medicine Committee on Policies for Allocating Health Sciences Research Funds, which produced Funding Health Sciences Research: A Strategy to Restore Balance.*

Floyd E. Bloom (Chairman), Professor of Neuropharmacology, Research Institute of Scripps Clinic, La Jolla, Calif.

Henry J. Aaron, an economist and Senior Fellow, Brookings Institution, Washington, DC

Jack D. Barchas, Associate Dean for Neuroscience and Professor of Neuroscience and Behavioral Sciences, School of Medicine, UCLA  
Ronald Breslow, Professor of Chemistry, Columbia University  
Howard E. Freeman, Professor of Sociology, UCLA

Hanna H. Gray, President, Professor of History, U. of Chicago  
Bernadine P. Healy, Chairman, Research Institute of Cleveland Clinic (named but not yet nominated to be next Director of NIH)

Samuel Hellman, Dean, Division of Biological Sciences and the Pritzker School of Medicine, Vice Pres., Medical Center, U. of Chicago  
Maureen M. Henderson, Professor of Epidemiology and Medicine, U. of Washington, Fred Hutchinson Cancer Research Center

Ralph I. Horwitz, Professor, Dept. of Medicine, Yale University  
Ernest G. Jaworski, Dir. of Biological Sciences, Monsanto Co.  
Gerald L. Klerman, Professor, Associate Chairman for Research, Department of Psychiatry, Cornell University Medical College

Thomas W. Langfitt (*ex officio* member), President, Chief Executive Officer, Glenmede Trust Co. and Pew Charitable Trusts, Phila.

Joshua Lederberg, University Professor and former President, The Rockefeller University

Ariel G. Loewy, Chairman, Dept. of Biology, Haverford College  
Don K. Price, Professor emeritus of Public Management, Kennedy School of Government, Harvard

Kenneth I. Shine, Dean, School of Medicine, UCLA  
P. Dennis Smith, Chairman, Department of Biological Sciences, Wayne State University

*Members of the FASEB Panel which reviewed the IOM report, with the constituent FASEB society which each represented.*

Thomas S. Edgington, Professor, Department of Immunology, Research Institute of Scripps Clinic; President of FASEB

M. Daniel Lane, Chairman, Department of Biological Chemistry, Johns Hopkins University School of Medicine; President, American Society for Biochemistry and Molecular Biology

Frank G. Standaert, Professor of Pharmacology and Anesthesiology, Medical College of Ohio, Toledo; American Society for Pharmacology and Experimental Therapeutics

Joe W. Grisham, Chairman, Department of Pathology, University of North Carolina, Chapel Hill; American Assoc. of Pathologists

Jeffrey B. Blumberg, Associate Director, USDA Human Nutrition Research Center, and Professor of Nutrition, Tufts University; American Institute of Nutrition

Fred D. Finkelman, Professor, Department of Medicine, Uniformed Services University of the Health Sciences, Bethesda, Md.; American Association of Immunologists

Thomas D. Pollard, Director, Dept. of Cell Biology and Anatomy, Johns Hopkins School of Medicine; Amer. Soc. for Cell Biology

Michael Jackson, Executive Director, FASEB

## FASEB Official Denies "Benedict Arnold" Allegation

*Caustic comments were directed at the Federation of American Societies for Experimental Biology (FASEB) by Robert M. Rosenzweig, President of the Association of American Universities, in an interview in SGR of November 15. Following is a response from the President of a constituent society of FASEB.*

To the Editor:

Dr. Rosenzweig asserts that FASEB views Dr. Floyd Bloom [chairman of the Institute of Medicine (IOM) committee that wrote *Funding Health Sciences Research*] as a "Benedict Arnold." I am aware of no one connected with the American Society for Biochemistry and Molecular Biology [a FASEB member organization] who has ever characterized Dr. Bloom in this fashion. Dr. Bloom is, to the best of my knowledge, well thought of and respected in the scientific community. We disagree with certain recommendations in the IOM report. However, our differences are over policy, and we do not take these differences personally.

Dr. Rosenzweig also characterizes our point of view on biomedical research as being "that no dollar ought to be taken away from the research line and every new dollar ought to go to research. And that any dollar that goes into facilities, to training, to indirect-cost recovery, whatever, is a dollar taken away from research, and that that's a crime against science. . . . [They believe] that anybody who argues

### **Biomedical Funds** (Continued from Page 3)

surely discussed by government officials who told the Forum that "they will address the matter in the next budget cycle." Inexplicably assured by a stock assurance that government officials routinely deliver to anxiety-ridden scientists, Press and Thier explained, "It is appropriate therefore that this report seeks to examine the long-term strategies that might protect the [biomedical research] environment from the wide swings of the past 2 to 3 years and provide long-term stable supplies of investigators, as well as adequate infrastructure to assure the continuing productivity of biomedical research in this country."

What's plain is that the impresarios of the IOM production were not aware of the depth of financial anxieties in the biomedical community. And none foresaw the force of the storm that would be provoked by a proposal for today's hardpressed scientists to sacrifice for the sake of tomorrow's.

It would be incorrect to regard this episode as just another spat between claimants for federal resources. It is that, but it is also symptomatic of a surging problem in the biomedical sciences and other sectors of research. Money on hand or the prospect of it used to be the great peacemaker among contending factions of science. But science today lives in a tight economy. The zero-sum principle does not invariably govern, but it's never far away. The FASEB attack on the IOM report is a sign of things to come.—DSG

anything to the contrary is not only wrong but disloyal or an enemy. . . ."

Dr. Rosenzweig accomplishes the remarkable feat of misstating our position on four highly complicated policy issues in one paragraph. We do not believe that "every new dollar ought to go to research." We do believe that extramural investigator-initiated research grants are the backbone of the biomedical research enterprise, and that these ought to be funded as top priority. We recognize that there are other elements of the enterprise that need to be funded.

As for the statement that we believe "no dollar ought to be taken away from the research line," we do not see why we should not oppose funding cuts in a program that we consider to be of high priority. We view our efforts to resist cuts in grant funding as no different than Dr. Rosenzweig's efforts to prevent federally mandated limits on indirect-cost recovery at major research institutions.

We have repeatedly stated that facilities funding is a problem that should be addressed, but only after the current research grant funding problem is resolved. It is our conviction that any facilities program ought to be supported by direct appropriations and not through the indirect-cost mechanism.

It is true that the number of individuals receiving NIH training awards each year has remained relatively static since the early 1970s. However, there are at least as many individuals who can be considered trainees currently being supported on investigator-initiated grants as there are being supported on training grants. Thus, training takes place whether a young scientist receives support from a training grant or from a research grant. The mechanism is not as important as the fact that the training takes place.

Our position on indirect costs is that tangible, measurable expenses associated with the cost of doing research, such as air conditioning, electricity and other utilities, communications expenses, and so forth, are legitimate expenses for which universities should receive compensation. However, when dealing with various administrative costs, the situation becomes murky. We are also deeply concerned with the recommendation made in the IOM report (and elsewhere) to more than double the allowance for facilities and equipment, and with certain other proposals.

Finally, while I do not know the privately held views of each and every individual member of the ASBMB, I can say that no one I know has ever asserted, either publicly or privately, that anyone who disagrees with our positions on these issues is "disloyal" or an "enemy." Moreover, we do not view a difference of opinion over these highly complex issues as a "crime against science."

**M. Daniel Lane**, President  
American Society for  
Biochemistry and Molecular Biology;  
Department of Biological Chemistry  
Johns Hopkins Univ. School of Medicine



## Nazi V-2 Gets Realistic Relabeling at Smithsonian

Truth in labeling has achieved a rare breakthrough in an exhibit of military technology at the Smithsonian National Air and Space Museum, in Washington, where traditional practice has called for bland, antiseptic explanatory material on some of the most horrifying instruments of war.

SGR recently found, however, that on one exhibit a striking change has been installed, without announcement from the Museum's public information office. It's the exhibit of the aerial terror weapon that Hitler unleashed in the closing months of World War II, the V-2 rocket, which killed thousands of civilians in France, Belgium, and Britain.

Unlike the old descriptive material, the new labeling makes it clear that the V-2 was an instrument of murder. In dramatic photos, it shows its developer, Wernher von Braun—a post-war architect of the American space program—briefing a group of uniformed Nazi officers. It shows corpses on an Antwerp plaza, victims of the V-2. And it shows the slave factories in which the missile was produced. The new explanatory material is striking in comparison to the fairytale it has replaced on the captured V-2 that has stood on the main floor of the Museum since 1976.

Located in a section devoted to civilian space activities, the V-2 on exhibit is outwardly indistinguishable from nearby research rockets. Until the beginning of November, the accompanying explanatory statement deftly skirted the V-2's lethal purpose and history, while technically maintaining historical accuracy. The emphasis was on aerospace accomplishment, with scant reference to Hitler's intent. The V-2 was too inaccurate for hitting military targets. But silent and too fast for anti-aircraft defenses, it was an ideal terror weapon against civilians.

Correctly describing the V-2 as "a milestone in the progress of rocket technology," the old description, a mere 125 words in all, noted that "The V-2 represented an advanced level of rocket engine technology which did not exist in other countries. Based on this German accomplishment, intercontinental ballistic missile systems with thermonuclear warheads have since revolutionized strategic warfare."

The old description went on to state that "The V-2 held the promise of much larger rockets which could fulfill the dreams of pioneers of space flight." The only reference to Von Braun noted that he headed the team of engineers that developed the rocket. And in the only specific reference to the V-2's deadly purpose, the old material simply said, "Four thousand of these rockets were fired against Allied targets in England and on the continent in 1944 and 1945." The death toll is not mentioned. The description concluded by observing, "Thus, after World War II, missiles which caused much death and destruction pointed the way to development of rocket boosters for launching satellites."

The new explanatory material is far more extensive and blunt. The old label said nothing about how V-2s were made.

The new one, accompanying a photo of an immense and gloomy underground factory, states: "Concentration camp prisoners built V-2s under unimaginably harsh working conditions. Thousands perished in the process." A photo shows a recently freed concentration camp inmate, still in striped prisoner uniform, guiding American troops through a V-2 site.

Another label states: "More than 1500 V-2s hit southern England alone, causing over 2000 deaths. . . . V-2s killed a total of 7000 people and terrorized millions." A photo of Von Braun is not far from a photo of V-2 victims in the Antwerp plaza. An accompanying label explains, "Because the V-2 could not be precisely guided, anyone within miles of the general target could be hit without warning."

The new labeling does not neglect the technical aspects of the V-2, which was an important milestone in the evolution of space technology. In fact, along with the grisly side of the V-2 story, the descriptive material now on display provides far more detail and explanation about the basic technology of the rocket and its significance in space history.

The V-2 labeling change—the only one of its kind so far at the Museum—reflects a maturing trend toward historical accuracy, according to the person directly responsible for it, David DeVorkin, an aerospace curator and historian. "When I decided to do it," he explained in an interview, "a few people winced, but they also said, 'You've got to do it.' There was no hassle about it," he said. He also noted that the change had so far stirred no visible reaction from visitors to the exhibit.

DeVorkin said there was no explicit directive from on high to encourage the labeling change. But he recalled that when the present Director of the Air and Space Museum, Martin Harwit, was a candidate for the job, he met with the staff. "In discussing our World War II exhibit," DeVorkin said, "Harwit remarked, 'I don't see anything about Dresden'—a reference to the destruction of that German city by American and British bombers in a series of military purposeless air raids on the eve of the war's end.

Currently in preparation, at the scholarly pace that characterizes museum affairs, is an exhibit on strategic bombing during World War II, a subject of passionate disputation in military and professorial circles. As a prelude to the exhibit, the Museum has been holding a series of seminars and lectures and has been showing various films related to bombing, including *Dr. Strangelove*, *War Games*, and *On the Beach*. Restoration is in progress on the first atomic bomber, the *Enola Gay*, the B-29 that delivered the atomic bomb on Hiroshima. The exhibit is expected to open in 1995.

Meanwhile, there's a lot of relabeling that remains to be done at the Air and Space Museum. A good starting place would be the new displays of a Soviet SS-20 rocket and an American Pershing II. No where is it said that they could kill millions.—DSG

## Bromley Defends Administration's Technology Role

*From an address, "US Technology Policy: The Path to Competitiveness," by Presidential Science Adviser D. Allan Bromley to the NASA-Sponsored "Technology 2000" meeting, November 27, in Washington.*

Despite what you might think—and despite what you might have read in the press—the Bush Administration . . . has made a clear commitment to support the development of generic, precompetitive technologies that are important in both the public and private sectors. . . . Many questions have been raised about the meaning of the terms "generic" and "precompetitive," but in fact they have been defined quite precisely.

A generic technology is simply one that has the potential to be applied to a wide variety of products and processes extending across many industries. A generic technology is typically not something that is sold commercially. Rather, it requires subsequent research and development, generally by the private sector, to result in commercial application.

Precompetitive refers to a particular part of the innovation process. It applies to activities before the point at which a company can tell whether a specific technology has commercial potential. It would not apply, for example, to the development of application-specific commercial prototypes.

With precompetitive R&D, results can be shared by a

group of companies without reducing the incentives that any of those firms would have to develop products or processes based on that work. . . .

This Administration is prepared to be helpful and indeed looks upon competitiveness as one of the nation's most pressing challenges. . . . But we do not believe that we in government are as well-qualified to make these strategic plans and decisions for industry as is industry itself. Nor do we believe that economic transfusions in the absence of such strategic plans are any answer at all. . . .

The Bush Administration is taking . . . steps to increase the competitiveness of American industry. But just as a strong technology policy is not by itself enough, so the actions of the federal government alone cannot dictate economic health. . . .

In the area of technology, the private sector must identify and aggressively pursue commercial applications for technologies developed outside its own laboratories, whether by university laboratories, by federal laboratories, by other companies, or by other countries.

Regarding its capital stock, it must increase quality, output, and productivity by undertaking the necessary investments in equipment and facilities. Finally, it must improve the skills and abilities of its own workforce and participate cooperatively in improving the quality of US education. . . .

## Job Changes & Appointments

**Victor H. Reis**, Deputy Director of the Defense Advanced Research Projects Agency, has been appointed to the agency's top post. He succeeds **Craig Fields**, who was pushed out last spring amid rumors that his support for civilian high-tech firms clashed with the Bush Administration's delusions that there's a free market out there. Fields has since been appointed head of MCC, the Texas-based industrial micro-electronics research consortium. Reis, a PhD engineer, served with the White House Science Office during the Reagan Administration.

**Mary Woolley**, Executive Director of the Medical Research Institute of San Francisco, has been elected President and Chief Executive Officer of the organization that calls itself Research!America, succeeding the founder, former US Senator **Lowell C. Weicker Jr.**, who has been elected Governor of Connecticut. Elected to the Research!America Board: **Robert G. Petersdorf**, President of the Association of American Medical Colleges; **Richard A. Cohen**, Professor of Medicine and Physiology, Boston University and President of the American Federation for Clinical Research, and **Thomas S. Edgington**, Professor of Immunology, Research Institute of Scripps Clinic and President of the Federation of American Societies for Experimental Biology. Headquartered in Alexandria, Va., and listing 130 institutional members, Research!America describes itself as "a non-profit, tax-

exempt organization which was formed to promote public awareness of the benefits to humankind of medical research."

**Edward A. Frieman**, Director of the Scripps Institution of Oceanography, has been appointed Chairman of a Department of Energy task force assigned to conduct yet another study "on the future role of DOE laboratories." Other members: **W.R. Brinkman**, Executive Director, Research-Physics Division, AT&T Bell Labs; **Timothy P. Coffey**, Director of Research, Naval Research Laboratory; **John S. Foster**, board member of TRW Inc. and Chairman of the Defense Science Board; **Lew Allen Jr.**, Director, Jet Propulsion Lab; **Leon M. Lederman**, Director emeritus, Fermi Lab; **Michael May**, Director emeritus, Lawrence Livermore Lab, and **John P. McTague**, Vice President, Technical Affairs, Ford Motor Co. Drawn from the DOE Secretary's Energy Advisory Board, the task force is scheduled for an interim report in May and a final report in October.

**Lewis T. Kontnik**, former Director of the George Mason University Entrepreneurship Center, Fairfax, Va., has been appointed Director of the Colorado Bio-Venture Center, an "incubator" for commercializing biomedical and biotechnology developments. The Center, one of six funded by the state-supported Colorado Advanced Technology Institute, is associated with the Colorado Health Sciences Center and other medical and research organizations.

## More in Print: Water, NSF's Cop, OTA Catalog, Etc.

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assessment of the Great Lakes National Program Office of the Environmental Protection Agency. GAO, which conducts investigations for the Congress, says little progress has been made in implementing ambitious timetables for cleansing the Lakes. The report notes that health advisories concerning fish consumption have been issued by most of the bordering states. Among the substances cited: PCBs, DDT, and mercury. New York's advisory, the GAO reports, "indicated that a meal of fish from Lake Ontario could deliver a toxic dose equal to a lifetime of drinking water from that lake." The GAO report was requested by Rep. Henry J. Nowak (D-NY), Chairman of the Public Works Subcommittee on Water Resources.

Order from: USGAO, PO Box 6015, Gaithersburg, Md. 20877; tel. 202/275-6241.

**Beneath the Bottom Line: Agricultural Approaches to Reduce Agricultural Contamination of Groundwater** (GPO Stock No. 052-003-01190-5; 346 pp., \$15), from the Congressional Office of Technology Assessment (OTA), the full report, following publication of a summary last May, urging wider use of preventive techniques to reduce groundwater contamination. Noting the lack of remedial methods for treating contaminated groundwater resources, OTA calls for more R&D, better information gathering and dissemination, and education and incentives for farmers to protect water supplies.

Order from: USGPO, Superintendent of Documents, Washington, DC 20402-9325; tel. 202/783-3238.

**OTA Publications** (OTA-P-58, 37 pp., no charge), catalog of hundreds of OTA publications and reports, current and dating back to the early 1980s, along with ordering information. Subject categories are Energy and Materials; Industry, Technology, and Employment; International Security and Commerce; Technology and the American Economic Transition; Biological Applications; Food and Renewable Resources; Health; Communication and Information Technologies; Oceans and Environment; Science, Education, and Transportation.

Order from: Office of Technology Assessment, Publications Office, US Congress, Washington, DC 20510-8025; tel. 202/224-8996.

**Human Genome News** (published every other month; no charge), newsletter co-sponsored by the Department of Energy and the National Institutes of Health, reports organizational developments in the spreading genome empire, meeting summaries, coming events, application deadlines, etc.

Order from: Oak Ridge National Laboratory, PO Box 2008, Oak Ridge, Tenn. 37831-6050; attn. Betty Mansfield; tel. 615/576-6669.

**Office of the Inspector General, Semiannual Report to the Congress, National Science Foundation** (52 pp., no charge), third report from NSF's own Congressionally mandated inhouse cop, covering April 1 to September 30, 1990, relates a lot of activity, but much of it involving minor matters that probably would have come to light without the increasingly formidable investigative apparatus that's taking root at Foundation headquarters. Among NSF's small business grantees, the IG found, for example, an "inability to demonstrate that purchases were made at the lowest price." Several museums were rapped for poor accounting methods. Allegations of scientific misconduct received by the IG increased from six in fiscal 1989 to 41 in fiscal 1990, a growth that IG attributes, without offering evidence, to "a new and increasing awareness, within NSF and the science-engineering community, of our responsibility to investigate all allegations of misconduct." One of the cases involved sexual harassment by an unnamed "biological scientist who directed research at a field site in a foreign country." The IG recommended three years debarment; the NSF Director chose five years. Final decision, says the IG, awaits a reply from the accused. After looking into the \$100-a-day honorarium that NSF pays advisers and reviewers, the IG offered three alternatives: continue, discontinue, or permit the directorates to establish their own honoraria policies. The NSF Executive Council, the IG reports, "decided not to change the existing policies and practices." Included in the report is an appeal for Congress to keep the IG money coming: "We can make a tremendous contribution in all of these areas if the Congress maintains its commitment to us by providing adequate funding."

Order from: Office of Inspector General, NSF, Suite 1241, 1800 G St. NW, Washington, DC; attn. Renee Pettis; tel. 202/357-7833.

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## In Print: '91 R&D Funding, Biotech Laws, Manpower

*The publications listed are obtainable as indicated—not from SGR.*

**Research and Development Funding: FY1991** (CRS Issue Brief IB90048, 15 pp., no charge), by the Science Policy Research Division of the Congressional Research Service (CRS), providing the first authoritative overview of R&D appropriations that came out of the turmoil of the last Congress. The report covers the major appropriations and notes budget shifts in the funding of the 11 departments and agencies that finance virtually all federal research. [Provisional data from the CRS report were described in the November 15 SGR.] The CRS tally will be the most reliable guide to the FY1991 R&D budget until publication in February of the Office of Management and Budget big book containing the President's proposed budget for FY1992 along with baseline listings for 1991 and 1990.

Order from: Science Policy Research Division, Congressional Research Service, Library of Congress, Madison Building, Washington, DC 20540; attn. Ms. Raap; tel. 202/707-7014.

**Legislation Enacted in the 101st Congress: A Comprehensive Summary of Legislation Affecting the Biotechnology Industry** (18 pp., no charge), by the Industrial Biotechnology Association, a concise review of legislative authority and appropriations directly affecting the bio-tech industry, but also of interest to the wider scientific and medical communities. The agencies covered include FDA, NIH, the Department of Agriculture, and the Patent Office. Also available from the Biotechnology Association: *Survey of State Government Legislation on Biotechnology: Fall 1990* (32 pp., no charge).

Order from: Industrial Biotechnology Association, 1625 K St. NW, Washington, DC 20006; tel. 202/857-0244.

**Competitiveness of the US Minerals and Metals Industry** (140 pp., \$19.95, plus \$2 shipping), among the gloomiest in the crowded field of downbeat assessments of various sectors of American industry, this one says neglect of research has produced technological stagnation in the mining and minerals industry. Produced by a National Academy of Sciences committee chaired by Alvin W. Trivelpiece, Director of the Oak Ridge National Laboratory, the report says industry, academe, and government are all at fault, including the US Bureau of Mines, which financed the study. Among the matters noted: industrial R&D spending in the area fell from \$133 million in 1988 to \$22.5 million in 1988 (but is now showing signs of revival); many academic programs fall short of critical mass in staff, students, and funding, and "the connection between the Bureau [of Mines] and its industry constituency appears to be weaker than in most industries." The report's recommendations are mainly

focused on expanding the role of the Bureau of Mines in supporting academic research and industrial collaboration. Admiring references are made to the operations of the US Geological Survey, a sister agency of the Bureau in the Department of Interior, and the National Institute for Standards and Technology.

Order from: National Academy Press, 2101 Constitution Ave. NW, Washington, DC 20418; tel. 1-800-624-6242; in Washington, DC: 334-3313.

**Research Centers Directory, 1991** (2171 pages, two volumes, total price \$390), 15th edition of the standard directory of academic and other non-profit research organizations and subunits in the US and Canada. The disciplinary coverage is comprehensive, ranging from the physical and natural sciences to humanities and the law. Each of the 12,326 entries (1400 more than in last year's edition) includes the organization's title and address, telephone and fax numbers, director's name, research interests, publications, etc. The listings are indexed by research topic, title of organization, and geographic location.

A companion volume, *International Research Centers Directory, 1990-91* (1326 pp., \$375), 5th edition, provides similar coverage of 6600 research organizations in 145 countries, not including the US. Also listed are government and other funding agencies for research, organizations sponsoring multinational research collaboration, and there's a section on research parks.

Order from: Gale Research, Inc., PO Box 33477, Detroit, Michigan 48322-5477; tel. 1-800-877-GALE.

**Increasing US Scientific Manpower** (GPO Stock No. 552-070-092-27-7; 181 pp., \$5.50), text and supplementary material from a hearing July 31 by a subcommittee of the House Science, Space, and Technology Committee. Witnesses were from NSF, NIH, universities, and industry. Among the topics discussed: US industrial research activities abroad, efforts by third-world nations to repatriate technically trained nationals living in the US, and employment experiences here of recent immigrant scientists and engineers. The hearing, attended only by Acting Subcommittee Chairman George E. Brown Jr. (D-Calif.), was a typical late-summer hurry-up Congressional production, officially clocked from 9:30 am to 12:19 pm., but it accomplished a once-over-quickly review of issues of increasing interest on Capitol Hill.

Order from: Superintendent of Documents, Congressional Sales Office, US Government Printing Office, Washington, DC 20402; tel. 202/275-3030.

**Water Pollution: Improve Coordination Needed to Clean Up the Great Lakes** (GAO/RCED-90-197; 40 pp., no charge), by the General Accounting Office (GAO), a pessimistic  
(Continued on Page 7)



